

What Is Claimed Is:

1. A measuring system, comprised of

- measuring device (1),
- other device (2), and
- data-transmission means (3) for transmitting data

bits between the measuring device (1) and the other device (2), the measuring device (1) having

- signal-monitoring circuit (1.6)
- and a control element (1.9, 1.10), and

the control element (1.9, 1.10) being in electrical contact with a test potential source (1.11); and

in a circuit-element state, the test potential source (1.11) being in contact with the signal-monitoring circuit (1.6); and

moreover, the signal-monitoring circuit (1.6) being in contact with the data-transmission means (3).

2. The measuring system as recited in Claim 1,

the measuring device being a position-measuring device, in particular a rotary transducer or a linear-measuring device.

3. The measuring system as recited in one of the preceding Claims,

the other device (2) being a machine control, in particular a processing machine.

4. A method for testing a measuring system for correct functioning,

- in the normal operation of the measuring system, to signal a fault-free operation of a measuring device (1), a bit having a constant level being transmitted by the measuring device (1) via a data-transmission means (3) to another device (2); and,

- in a test operation of the measuring system,

- a signal-monitoring circuit (1.6) in the measuring device (1) being brought into electrical contact with a test-potential source (1.11); and,

- in the other device (2), it being checked whether the test operation effects a change in the level of the bit in relation to the level of the normal operation.

5. The method as recited in Claim 4, in the normal operation of the measuring system, a change in the level of the bit triggering a reaction in the other device (2), while in the test operation, the change in the level of the bit not triggering any reaction in the other device (2).

6. The method as recited in Claim 4 or 5, in response to a signal from the other device (2), the test-potential source (1.11) being brought into electrical contact with the signal-monitoring circuit (1.6).

7. The method as recited in Claim 4, Claim 5, or Claim 6, the test operation being automatically triggered in defined time intervals to test the measuring device (1) for correct functioning.

8. The method as recited in one of Claims 4 through 7, the test operation being manually triggered to test the measuring device (1) for correct functioning.

9. The method as recited in one of Claims 4 through 8, in response to specific machine states being reached, such as a tool or workpiece change, the test operation being automatically triggered to test the measuring device (1) for correct functioning.